

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

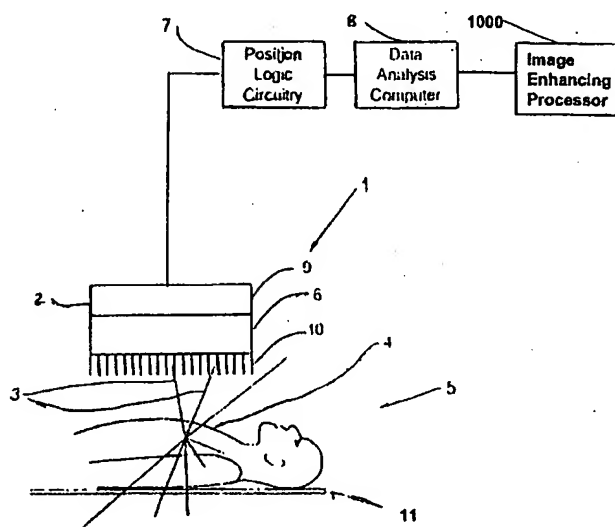
PCT

(10) International Publication Number
WO 2004/113951 A3

- (51) International Patent Classification⁷: **G01T 1/161** (74) Agent: MILLER - SIERADZKI ADV. & PATENT ATTORNEYS; P.O.B. 6145, 31061 HAIFA (IL).
- (21) International Application Number: **PCT/IL2004/000545** (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: **20 June 2004 (20.06.2004)**
- (25) Filing Language: **English**
- (26) Publication Language: **English**
- (30) Priority Data: **156569 22 June 2003 (22.06.2003) IL**
- (71) Applicant (for all designated States except US): **ULTRA SPECT LTD. [IL/IL]; Buiding #30 (Zoran), P.O.B 15010, Matam Park, 31905 HAIFA (IL).**
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **GAL, Yaniv [IL/IL]; 9/10 Dovnov st., 32205 HAIFA (IL). OAKNIN, Jacob [IL/IL]; 32 Finland st., 34989 HAIFA (IL). SHWARTZ, Sholamit [IL/IL]; P.O.B. 183, 30300 ATLIT (IL). OHANA, Israel [IL/IL]; 5 Peretz Bernstein st., 34981 HAIFA (IL).**
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report

[Continued on next page]

(54) Title: **RADIOPHARMACEUTICAL IMAGING**



(57) Abstract: An apparatus and method for obtaining a planar image of a portion (4) of a body (5) and enhancing image quality of at least one specific organ or volume of interest located within the portion (4) of the body (5), administered with radiopharmaceutical substance radiating gamma rays, by using single photon emission imaging, for determination of functional information thereon, comprising : (a) acquiring at least one projection data of the portion (4), by means of a gamma camera detector (2); (b) determining the effective distance between the detector (2) and the specific organ of interest; (c) calculating weight values taking into account acceptance angles of the gamma camera detector (2) and the effective distance; and (d) obtaining a two dimensional image of a spatial distribution of the pharmaceutical substance within the portion (4) by mathematically analyzing the data in conjunction with weight values.

WO 2004/113951 A3

BEST AVAILABLE COPY



- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
31 March 2005

REFST AVAILABLE COPY